

U.S. Patent Application of Heinrich et al.  
Serial No. 10/759,478 Filed: January 16, 2004

**RESPONSE TO NON-FINAL OFFICE ACTION OF JUNE 10, 2005**

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**Remarks**

**Introduction**

By this paper, applicants respond to the pending Office Action mailed June 10, 2005.

**Change of Correspondence Address**

As a preliminary matter, submitted concurrently herewith is a Change of Correspondence Address in the above-captioned case.

**Affirmation of the Election of Claims**

Applicants affirm the election of Group I claims 1-23 to prosecute.

**Rejection of Claims 1-23**

The Primary Examiner has rejected claims 1-23 under 35 USC §103(a) "as being unpatentable over" U.S. Patent No. 6,207,262 to Ichikawa et al. taken in view of U.S. Patent No. 3,451,791 to Meadow et al. Applicants respectfully submit that the rejection lacks merit for the reasons set forth below. Applicants request the removal of the rejection and the allowance of the claims.

The primary applied patent, i.e., Ichikawa et al., presents a very broad and general description of the tungsten carbide based cemented carbide substrate as found (and referenced by the Primary Examiner) at Column 2, lines 25-35. Even by the Primary Examiner's admission, Ichikawa et al. lacks a disclosure of the claim limitations (1) that the binder phase contains tantalum (or niobium) and (2) that the binder contains tungsten. See page 4 of the Office Action. Further, as applicants point out below, Ichikawa et al. lacks a disclosure of the claim limitation that the sintered cemented carbide includes, "... at least one additional phase comprises a TaC phase visible by optical microscopy." See independent claims 1 and 22. Meadows fails to address the deficiencies extant in Ichikawa et al. *vis-a-vis* the tungsten in the binder. Aoki et al. fails to take care of the deficiencies in Ichikawa et al. regarding the

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tantalum or niobium in the binder. None of the applied documents addresses the existence of a TaC phase visible by optical microscopy. The only satisfactory conclusion is that the rejection lacks merit because the Primary Examiner has failed to produce evidence sufficient to support a ruling of obviousness so as to not meet the initial burden of *prima facie* obviousness. See In re Oetiker, 977 F.2d 1443, 24 USPQ2d 1443, (Fed. Cir. 1992). Thus, the rejection must be removed and the claims allowed.

On its face, the text from Ichikawa et al. (Col. 2, lines 25-35) referenced by the Primary Examiner (see pages 3-4 of the Office Action) discloses that the chromium and vanadium and tantalum and niobium components are optional. In this portion of the text of Ichikawa et al., there is no teaching that mandates (or even suggests in a meaningful way) the presence of chromium and tungsten and tantalum (or niobium).

In reference to specific examples of Ichikawa et al., it appears that only some of the examples set out in Table 14 exhibit a substrate that contains chromium and tantalum (or niobium) and tungsten carbide. However, there is no way to ascertain whether any of these examples meet the claim limitation that, "the binder phase contains the metals W, Cr and Ta, dissolved in solid solution, ...". Meadows makes the point that the composition must exhibit a carbon deficiency to allow the tungsten to dissolve in the cobalt. See Column 11, lines 52-57 of Meadows. There is nothing in Ichikawa et al. that suggests that the compositions thereof are carbon deficient or that it would be desirable to make the compositions carbon deficient. In fact, the examples of Table 14 of Meadows include "carbon powder for adjusting an amount of carbon" in the starting powder mixture. See Col. 5, lines 59-66 of Meadows. One typical use of carbon powder is to render the composition carbon-rich. Hence, applicants submit that there is no disclosure in the combination of Ichikawa et al. and Meadows that teaches or suggests a binder phase that contains tungsten so that these documents do not comprise evidence sufficient to support a ruling of obviousness.

In regard to the presence of tantalum or niobium in the binder phase, the Primary Examiner referred (see page 4 of the Office Action) to text in Aoki et al. (Col. 4, lines 14-21)

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that is very general in its description. This means that it is difficult to draw a clear conclusion that the presence of tantalum in the starting powders will necessarily result in the presence of a tantalum in the binder phase. The term "specific amounts" of Aoki et al. (see Col. 4, line 14) in the absence of more guidance is vague at best. In view of the lack of clarity in Aoki et al., applicants respectfully submit that Ichikawa et al. taken alone, or even in view of Aoki et al., does not address the pending claims that require the limitation that the binder phase includes tantalum or niobium.

The Office Action arguably makes passing reference to the presence of the TaC phase (see page 4, lines 9-12) in the cemented carbide. The Primary Examiner does not point out any specific portion of the text of Ichikawa et al. that teaches or suggests the claim limitation found in all of the claims that, "... at least one additional phase comprises a TaC phase visible by optical microscopy." See independent claims 1 and 22. There is no teaching in Ichikawa et al. that supports the position that tantalum or tantalum carbide in the starting powders will necessarily result in the presence of a visible TaC phase.

**Conclusion**

For the reasons expressed above, applicants respectfully submit that the combination of Ichikawa et al. and Meadows (as well as Aoki et al. for that matter) does not comprise evidence sufficient to support a ruling of obviousness of the pending claims now under rejection. Applicants submit that these claims define a patentable invention.

Applicants request the removal of these rejections and the issuance of a Notice of Allowability and Notice of Issue Fee Due in the above case.

If the Primary Examiner disagrees with applicants' arguments, but has suggestions to

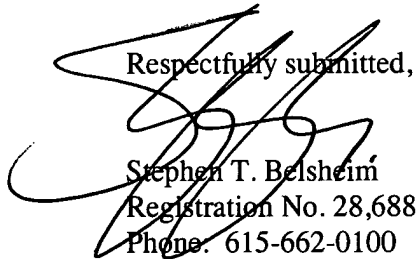
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place the claims in form for allowance, applicants urge the Primary Examiner to telephone the undersigned attorney or Mr. John J. Prizzi, Esq. (724-539-5331) to discuss such suggestions.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'S. Belshem', is written over the typed name and contact information.

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